

**1. STANDARD SPECIFICATIONS**

EXCEPT WHERE MODIFIED BY THE CONTRACT DOCUMENTS, ALL WORK PROPOSED HEREON SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS, WHICH ARE HEREBY MADE A PART HEREOF:

- 1.1 STANDARD SPECIFICATIONS FOR EARTHWORK, PAVEMENT AND SIDEWALKS. ALL EARTHWORK, CURBS AND SIDEWALKS ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS PREPARED BY I.D.O.T., LATEST ADDITION AND WITH ANY SPECIAL PROVISIONS SPECIFIED HEREIN TO SAID STANDARD SPECIFICATIONS.
- 1.2 STANDARD SPECIFICATIONS FOR SANITARY SEWERS, STORM SEWERS AND WATER MAINS: ALL SANITARY SEWER, STORM SEWER AND WATER MAIN CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS" LATEST ADDITION AND WITH ANY SPECIAL PROVISIONS SPECIFIED HEREIN TO SAID STANDARD SPECIFICATIONS.
- 1.3 CITY OF BATAVIA SUBDIVISION CONTROL ORDINANCE DATED MARCH 1989, INCLUDING ALL PERTINENT ADDENDA AND ALL APPLICABLE CITY OF BATAVIA STANDARDS.
- 1.4 THE "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS" AS PUBLISHED BY I.D.O.T., LATEST ADDITION.
- 1.5 THE "PROCEDURES AND STANDARDS FOR URBAN EROSION CONTROL IN ILLINOIS" AS PUBLISHED BY THE ILLINOIS CONSERVATION DISTRICT.
- 1.6 CONFLICTS: IN THE CASE OF CONFLICTS BETWEEN THE PLANS AND SPECIFICATIONS SHOWN HEREIN AND THE APPLICABLE STANDARD SPECIFICATIONS, THESE PLANS AND SPECIFICATIONS SHOWN HEREIN SHALL TAKE PRECEDENCE, NO SUBSTITUTIONS IN MATERIALS, DETAILS OR ANY OTHER PART OF THE WORK SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

**2. GENERAL**

- 2.1 HEALTH AND SAFETY: THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND FEDERAL SAFETY REGULATIONS AS OUTLINED IN THE LATEST REVISIONS OF THE FEDERAL CONSTRUCTION SAFETY STANDARDS (SERIES 1926) AND THE APPLICABLE PROVISIONS AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA STANDARDS OF THE WILLIAMS STEER OCCUPATIONAL HEALTH STATE AND SAFETY ACT OF 1970) REVISED.
- 2.2 BONDING AND LICENSING: THE CONTRACTOR AND HIS INDIVIDUAL SUBCONTRACTORS PRIOR TO THE COMMENCEMENT OF WORK SHALL OBTAIN ALL APPLICABLE CITY PERMITS, LICENSES AND BONDS.
- 2.3 THE CONTRACTOR SHALL PERFORM ALL WORK INDICATED OR IMPLIED IN THE CONTRACT DOCUMENTS, ALL WORK NOT SPECIFIED, BUT REQUIRED TO COMPLETE THE PROJECT, INCLUDING ACCESSORIES AND APPURTENANCES, SHALL BE PERFORMED BY THE CONTRACTOR IN A SATISFACTORY MANNER. TREE TRIMMING OR TREE REMOVAL SHALL BE PERFORMED BY A LICENSED ARBORIST, AND APPROVED BY THE ENGINEER OR ENGINEER'S REP.
- 2.4 ELECTRIC, TELEPHONE, NATURAL GAS AND OTHER UTILITY COMPANIES HAVE UNDERGROUND AND/OR OVERHEAD SERVICE FACILITIES IN THE VICINITY OF THE PROPOSED WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITIES LOCATE THEIR FACILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND SHALL ALSO BE RESPONSIBLE FOR MAINTENANCE AND PRESERVATION OF THE FACILITIES. THE CONTRACTOR SHALL CALL J.U.L.L.I.E. AT 800-892-0123 FOR UTILITY LOCATIONS.
- 2.5 NEITHER THE ENGINEER NOR THE CITY OF BATAVIA ARE RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, TIME OF PERFORMANCE, PROGRAMS OR FOR ANY SAFETY PRECAUTIONS USED BY CONTRACTOR.
- 2.6 THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXECUTION OF HIS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS. SPECIAL ATTENTION IS DRAWN TO THE FACT THAT THE ARTICLE 105.06 OF THE I.D.O.T. STANDARD SPECIFICATIONS REQUIRES THE CONTRACTOR TO HAVE A COMPETENT SUPERINTENDENT ON THE PROJECT SITE AT ALL TIMES IRRESPECTIVE OF THE AMOUNT OF WORK SUBLET. THE SUPERINTENDENT SHALL BE ABLE TO SPEAK ENGLISH, HE SHALL BE CAPABLE OF READING AND UNDERSTANDING THE PLANS AND SPECIFICATIONS, SHALL HAVE FULL AUTHORITY TO EXECUTE ORDERS TO EXPEDITE THE PROJECT, AND SHALL BE RESPONSIBLE FOR SCHEDULING AND HAVE CONTROL OF ALL WORK AS THE AGENT OF THE CONTRACTOR. FAILURE TO COMPLY WITH THIS PROVISION WILL RESULT IN A SUSPENSION OF WORK AS PROVIDED IN ARTICLE 109.08.
- 2.7 THE CONTRACTOR, ENGINEER AND DEVELOPER SHALL BE RESPONSIBLE FOR THEIR OWN RESPECTIVE AGENTS AND EMPLOYEES.
- 2.8 IN THE EVENT OF A DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS OWN RISK AND EXPENSE. IN THE EVENT OF ANY DOUBT OR QUESTION ARISING WITH RESPECT TO THE TRUE MEANING OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL AND CONCLUSIVE.
- 2.9 IN THE EVENT OF CONFLICTING SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL AND CONCLUSIVE.
- 2.10 PRIOR TO THE START OF CONSTRUCTION, THE ENGINEER, THE PROJECT ENGINEER AND THE GENERAL CONTRACTOR SHALL ATTEND A PRECONSTRUCTION MEETING. THE PURPOSE OF THE MEETING IS TO REVIEW ACCEPTABLE SITE DEVELOPMENT AND CONSTRUCTION PRACTICES IN ACCORDANCE WITH THE CONSTRUCTION CONTROL PLAN AND CITY ORDINANCES AND POLICIES.
- 2.11 GRANULAR TRENCH BACKFILL: ALL TRENCH SECTIONS FOR STORM SEWERS, SANITARY SEWERS, WATER MAINS, ELECTRICAL CONDUITS AND ALL OTHER UNDERGROUND SERVICE LINES LOCATED WITHIN EXISTING AND PROPOSED PAVEMENT AREAS OR AS OTHERWISE NOTED ON THE PLAN SHALL BE BACKFILLED TO THE PROPER SUBGRADE WITH SELECTED GRANULAR TRENCH BACKFILL MATERIAL CA-6 CRUSHED LIMESTONE. THE GRANULAR TRENCH MATERIAL SHALL BE PLACED IN LAYERS NO THICKER THAN TWELVE INCHES AND THOROUGHLY COMPACTED IN PLACE ACCORD TO I.D.O.T. STANDARD SPECIFICATIONS METHOD 1. USE CA-7 OPEN GRADED FOR PERFORATED PVC, CATCH BASINS AND INLETS.
- 2.12 FINAL ADJUSTMENTS OF FRAMES, LIDS AND GRATES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING AND ADJUSTING FRAMES AND GRATES ON MANHOLES, INLETS AND VALVE VAULTS TO THEIR FINISHED ELEVATIONS OR AS DIRECTED BY THE ENGINEER.
- 2.13 EXISTING STREET CLEANLINESS: THE CONTRACTOR(S) SHALL KEEP EXISTING ADJACENT STREET PAVEMENTS CLEAN OF DIRT AND DEBRIS. CLEAN PAVEMENTS ON A DAILY BASIS OR MORE OFTEN WHEN NECESSARY AS DIRECTED BY THE ENGINEER.

USE OF CDD FILL OPERATIONS: PER PUBLIC ACT 97-0137, IF THE CONTRACTOR CHOOSES TO DISPOSE OF UNCONTAMINATED SOIL OR UNCONTAMINATED SOIL MIXED WITH CLEAN CONSTRUCTION AND DEMOLITION DEBRIS (CDD) AT A CDD FILL OPERATION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL NECESSARY FIELD AND LABORATORY ANALYSIS AND TO OBTAIN THE LICENSED PROFESSIONAL ENGINEER'S CERTIFICATION REQUIRED AS PER PUBLIC ACT 96-1416 TO USE THE SITE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO EARTH EXCAVATION OR RELATED EXCAVATION OR REMOVAL ITEM, AND NO ADDITIONAL COMPENSATION WILL BE PROVIDED.

- 2.14 CONCRETE: ALL CONCRETE USED IN CONSTRUCTING THE IMPROVEMENTS SHALL BE CLASS "SI", SIX (6) BAG MIX, AND SHALL HAVE A COMPRESSIVE STRENGTH OF 3500 PSI AFTER 14 DAYS.
- 2.15 UNDERGROUND UTILITY INSPECTION: PRIOR TO THE PLACEMENT OF BACKFILL, THE INSTALLATION OF ALL UNDERGROUND UTILITY LINES SHALL BE INSPECTED AND APPROVED BY THE ENGINEER.
- 2.16 EXISTING FIELD TILES: THE LOCATION OF ANY EXISTING FIELD TILES ENCOUNTERED DURING EXCAVATION SHOULD IMMEDIATELY BE FLAGGED ON-SITE AND MARKED ON THE CONTRACTOR'S RECORD PLAN SET. THE CONTRACTOR SHALL RECONNECT ALL FIELD TILE OR CONNECT FIELD TILE TO THE PROPOSED STORM SEWER SYSTEM IN A MANNER ACCEPTABLE TO THE ENGINEER.
- 2.17 BEFORE ACCEPTANCE BY THE ENGINEER AND FINAL PAYMENTS, ALL WORK SHALL BE INSPECTED AND APPROVED BY THE ENGINEER OR HIS REPRESENTATIVE. EASEMENTS FOR THE EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE AND UTILITIES WITHIN PUBLIC RIGHTS-OF-WAY ARE SHOWN ON THE PLANS ACCORDING TO AVAILABLE RECORDS.
- 2.18 UNLAWFUL ACTIVITIES--DRAINAGE FACILITIES--EARTHEN BERMS: IT IS UNLAWFUL FOR ANY PERSON TO CONSTRUCT OR CAUSE TO BE CONSTRUCTED ANY DRAINAGE FACILITY FOR THE PURPOSE OF THE DETENTION OR RETENTION OF WATER WITHIN A DISTANCE OF 10 FEET PLUS ONE AND ONE-HALF TIMES THE DEPTH OF ANY DRAINAGE FACILITY ADJACENT TO THE RIGHT OF WAY OF ANY PUBLIC HIGHWAY WITHOUT THE WRITTEN PERMISSION OF THE HIGHWAY AUTHORITY HAVING JURISDICTION OVER THE PUBLIC HIGHWAY. IT IS UNLAWFUL FOR ANY PERSON TO CONSTRUCT OR CAUSE TO BE CONSTRUCTED ANY EARTHEN BERM SUCH THAT THE TOE OF SUCH BERM WILL BE NEARER THAN 10 FEET TO THE RIGHT-OF-WAY OF ANY PUBLIC HIGHWAY WITHOUT THE WRITTEN PERMISSION OF THE HIGHWAY AUTHORITY HAVING JURISDICTION OVER THE PUBLIC HIGHWAY.
- 2.19 CONTACT DON CHIARUCI, THE TRAFFIC FIELD ENGINEER AT (847)-741-9857 TWO WEEKS PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
- 2.20 THE CONTRACTOR SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847)-205-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

**3. EARTH WORK**

WORK UNDER THIS SECTION SHALL INCLUDE BUT NOT LIMITED TO THE FOLLOWING:

- 3.1 CLEARING AND REMOVAL OF ALL UNDESIRABLE TREES AND OTHER VEGETATIVE GROWTH WITHIN THE CONSTRUCTION AREA IS INCIDENTAL TREE REMOVAL AS DESIGNATED BY AND APPROVED BY THE ENGINEER SHALL BE KEPT TO A MINIMUM. THE ENGINEER WILL NOT PERMIT THE ON-SITE BURIAL OF TREES, BRUSH, MISC. CONCRETE AND ETC.
- 3.2 PRIOR TO ONSET OF MASS GRADING OPERATIONS THE EARTHWORK CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SOIL EROSION CONTROL SPECIFICATIONS. THE INITIAL IMPLEMENTATION OF EROSION CONTROL PROCEDURES AND THE PLACEMENT OF FILTER FENCING (SILT FENCING), ETC., TO PROTECT ADJACENT PROPERTIES, SHALL OCCUR BEFORE MASS GRADING BEGINS, IN ACCORDANCE WITH THE SOIL EROSION CONTROL CONSTRUCTION SCHEDULE.
- 3.3 ALL TESTING, INSPECTION AND SUPERVISION OF SOIL QUALITY, THE REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL AND OTHER SOILS RELATED OPERATIONS SHALL BE ENTIRELY THE RESPONSIBILITY OF THE SOILS ENGINEER. HE OR HIS REPRESENTATIVE WILL CLOSELY SUPERVISE AND INSPECT THE GRADING OPERATIONS, PARTICULARLY DURING REMOVAL OF UNSUITABLE MATERIAL AND THE CONSTRUCTION OF EMBANKMENTS.
- 3.4 THE GRADING AND CONSTRUCTION OF THE SITE IMPROVEMENTS SHALL NOT CAUSE PONDING OF STORMWATER. ALL AREAS ADJACENT TO THESE IMPROVEMENTS SHALL BE GRADED TO ALLOW POSITIVE DRAINAGE.
- 3.5 THE PROPOSED GRADING ELEVATIONS SHOWN ON THE PLANS ARE FINISH GRADES. A MINIMUM OF FOUR INCHES (4") INCHES OF TOPSOIL IS TO BE PLACED BEFORE FINISH GRADE ELEVATIONS ARE ACHIEVED.
- 3.6 THE SELECTED STRUCTURAL FILL MATERIAL SHALL BE PLACED IN LEVEL UNIFORM LAYERS SO THAT THE COMPACTED THICKNESS IS APPROXIMATELY SIX INCHES (6"); IF COMPACTION EQUIPMENT DEMONSTRATED THE ABILITY TO COMPACT GREATER THICKNESSES, THEN A GREATER THICKNESS MAY BE SPECIFIED. EACH LAYER SHALL BE THOROUGHLY MIXED DURING SPREADING TO INSURE UNIFORMITY.
- 3.7 EMBANKMENT MATERIAL WITHIN ROADWAY, PARKING LANES AND OTHER STRUCTURAL LAY FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF NINETY-FIVE PERCENT (95%) OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM SPECIFICATIONS D-1557 (MODIFIED PROCTOR METHOD), OR TO OTHER SUCH DENSITY AS MAY BE DETERMINED APPROPRIATE BY THE SOILS ENGINEER. EMBANKMENT MATERIAL FOR BUILDING PADS SHALL BE COMPACTED TO MINIMUM OF NINETY-FIVE PERCENT (95%) OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM DESIGNATION D-1557 (MODIFIED PROCTOR METHOD) OR TO SUCH OTHER DENSITY AS MAY BE DETERMINED APPROPRIATE BY THE SOIL ENGINEER.
- 3.8 EMBANKMENT MATERIAL (RANDOM FILL) WITHIN NON-STRUCTURAL FILL AREAS SHALL BE COMPACTED TO MINIMUM OF NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM DESIGNATION D-1557 (MODIFIED PROCTOR METHOD).

**3. EARTH WORK**

- 3.9 THE SURFACE VEGETATION, TOPSOIL AND ANY OBVIOUSLY SOFT UNDERLYING SOIL SHOULD BE STRIPPED FROM ALL AREAS TO RECEIVE CLAY FILL. IF THE UNDERLYING SUBGRADE SOILS RUT DEEPER THAN AN INCH UNDER THE CONSTRUCTION EQUIPMENT OR IF THE MOISTURE CONTENT EXCEEDS THAT NEEDED FOR PROPER COMPACTION, THE SOIL SHALL BE SCARIFIED, DRIED AND RECOMPACTED TO THE REQUIRED SOIL SPECIFICATIONS. (SEE SECTION 212.03 OF THE I.D.O.T. SPECIFICATIONS).
- 3.10 ALL PAVEMENT SUBGRADE SHALL HAVE A MINIMUM IPR-3 AS DETERMINED BY THE SOILS ENGINEER WITH RESULTS SUBMITTED TO THE ENGINEER. IF AREAS OF PAVEMENT SUBGRADE ARE ENCOUNTERED WHICH DO NOT PROVIDE A MINIMUM IPR-3, SUBGRADE REPLACEMENT OR PAVEMENT DESIGN REVISIONS SHALL BE PROVIDED WHICH ARE ADEQUATE TO OBTAIN EQUIVALENT PAVEMENT STRENGTH, AS DETERMINED BY THE ENGINEER AND SOILS ENGINEER.
- 3.11 PRIOR TO UTILITY CONSTRUCTION PROPOSED PAVEMENT AREAS, SIDEWALKS AND YARD/OPEN SPACE AREAS SHALL BE ROUGH EXCAVATED OR FILLED TO PLUS OR MINUS ONE FOOT (1") OF DESIGN SUBGRADE ELEVATION BY THE CONTRACTOR.
- 3.12 THE STREET SUBGRADE SHALL BE SHAPED AND COMPACTED AS SPECIFIED IN SECTION 301 OF THE I.D.O.T. SPECIFICATIONS. JUST PRIOR TO THE CONSTRUCTION OF THE BASE COURSE, THE SUBGRADE SHALL BE PROOF-ROLLED AND WITNESSED BY THE ENGINEER. IF IN THE OPINION OF THE ENGINEER ANY SUBGRADE AREAS ARE FOUND TO BE UNSTABLE, THEN SAID AREAS SHALL BE REMOVED AND REPLACED WITH AN ACCEPTABLE GRANULAR MATERIAL. IF PRECIPITATION OCCURS AFTER THE SUBGRADE PROOF-ROLLING AND BEFORE THE CONSTRUCTION OF THE BASE COURSE, THEN SAID SUBGRADE PROOF-ROLLING SHALL BE REPEATED TO VERIFY THAT THE SUBGRADE IS STABLE. IF AREAS OF THE SUBGRADE ARE FOUND TO BE UNSTABLE FOLLOWING REPLACEMENT WITH ACCEPTABLE GRANULAR MATERIALS THE SOILS ENGINEER AND THE ENGINEER SHALL DETERMINE THE CORRECTIVE ACTION.
- 3.13 GEOTEXTILE PAVING FABRIC REQUIRED ON ALL STREET SUBGRADE APPLICATIONS AND SHALL CONSIST OF A NONWOVEN GEOTEXTILE FABRIC, 12 OZ/SY MINIMUM.
- 3.14 THE SUBGRADE SHALL MEET MINIMUM STANDARD OF NINETY-FIVE PERCENT (95%) OF THE STANDARD PROCTOR TEST AND SHALL BE TESTED AT 200 FOOT INTERVALS, MINIMUM.

- 3.15 AGGREGATE BASE COURSE: AFTER APPROVAL BY THE ENGINEER, THE AGGREGATE BASE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 351 OF THE I.D.O.T. STANDARD SPECIFICATIONS FOR TYPE A OR TYPE B CONSTRUCTION. THE MATERIAL SHALL BE CRUSHED LIMESTONE CONFORMING TO CA-6 GRADATION. THE MINIMUM COMPACTED THICKNESS SHALL BE AS SHOWN ON THE TYPICAL CROSS-SECTION DETAIL. THE AGGREGATE BASE SHALL BE PROOF-ROLLED ONE DAY PRIOR TO PLANNED APPLICATION OF THE PRIME COAT AND BINDER COURSE. IF, IN THE OPINION OF THE ENGINEER THE AGGREGATE BASE IS UNSTABLE, IT SHALL BE REMOVED AND REPLACED WITH NEW SUBBASE AND AGGREGATE BASE MATERIAL AND COMPACTED TO NOT LESS THAN NINETY-FIVE PERCENT (95%) OF THE STANDARD LABORATORY DENSITY.
- 3.16 AFTER COMPLETION OF ALL UTILITIES IN THE RIGHT OF WAY THE PARKWAYS SHALL BE TOPSOILED AND SEEDED.

**4. STORM SEWER CONSTRUCTION**

- 4.1 STORM SEWER SHALL TYPICALLY BE REINFORCED CONCRETE SEWER PIPE, CLASS III OR IV AS NOTED, CONFORMING TO ASTM C-76 SPECIFICATIONS WITH MASTIC SEALED JOINTS. WHERE HORIZONTAL SEPARATION FROM WATER MAIN CONTROLS, PVC STORM SEWER OF WATER MAIN QUALITY SHALL BE USED, WITH JOINTS CONFORMING TO ASTM D-2855. NO ALTERNATE PIPE MATERIAL, SUCH AS PVC OR ADS PLASTIC, ETC., SHALL BE CONSIDERED ACCEPTABLE FOR THE MAIN STORM SEWER LINES WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.
- 4.2 FRAMES, LIDS AND GRATES DESIGNATED ON THE PLANS FOR STORM SEWER INLETS, MANHOLES AND JUNCTION BOXES SHALL CONFORM TO THE FOLLOWING OR AN APPROVED EQUAL:
 

CURB INLET	E.J. 7220 TYPE 1 CURB BACK, TYPE M1 GRATE
MANHOLE	E.J. 1020 TYPE M1 OR TYPE A GRATE
YARD INLET	E.J. 6527
JUNCTION BOX	E.J. 1020 TYPE M1 OR TYPE A GRATE
- THE WORDS "CITY OF BATAVIA", "STORM" SHALL BE CAST INTO THE LID.
- 4.3 MANHOLES TYPE "C" MANHOLES DESIGNATED ON THE PLANS AS TYPE "C" ARE SHALLOW DEPTH MANHOLES WITH A REINFORCED CONCRETE FLAT SLAB TOP. THE DEPTH OF THE FLAT SLAB TOP TO BE 6 INCHES.
- 4.5 POURED INVERTS: ALL INLETS, CATCH BASINS, STORM MANHOLES AND OTHER DRAINAGE STRUCTURES SHALL BE PROVIDED WITH PRECAST CONCRETE INVERTS OR SHALL HAVE POURED IN PLACE CONCRETE INVERTS CONFORMING TO THE SHAPE OF THE PIPE OR AS OTHERWISE SHOWN ON THE PLANS. POURED IN PLACE CONCRETE SHALL BE CLASS "SI" SHAPED AND TROWELED FOR A SMOOTH FINISH.

**5. SANITARY SEWER CONSTRUCTION**

- 5.1 SEWER PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS EXCEPT AS APPROVED BY THE ENGINEER:
  1. BETWEEN DEPTHS OF SIX FEET (6') AND FOURTEEN FEET (14'), PVC PIPE ASTM D-3034 SDR 26 SHALL BE REQUIRED. (ORD. 1977-32, 6-2-1977)
  2. FOR DEPTHS SHALLOWER THAN SIX FEET (6') OR DEEPER THAN FOURTEEN FEET (14') DUCTILE IRON PIPE, ASTM C151, CLASS 52 WITH PUSH ON JOINTS OR RESTRAINED JOINTS WHERE APPLICABLE. PIPE SHALL BE AS MANUFACTURED BY GRIFFIN PIPE CO., HZSEWER SAFE DUCTILE IRON OR APPROVED EQUAL. ALL DUCTILE IRON SHALL INCLUDE POLY-WRAP. ALL PIPE INSTALLED AT DEPTHS GREATER THAN FOURTEEN FEET (14') SHALL BE EVALUATED FOR THICKNESS BY CONSIDERING THE TRENCH LOAD AND INTERNAL PRESSURE SEPARATELY IN ACCORDANCE WITH ANSI/AWWA C150/A21.5. PRESSURE RATED PIPE, ASTM D-2241, SDR 21 MAY BE SUBSTITUTED FOR BURY DEPTHS FROM FOURTEEN FEET (14'), TO TWENTY FEET (20'). PRESSURE RATED PIPE, ASTM D-2241, (OR) 18, AWWA C-900, MAY BE REQUIRED OR SUBSTITUTED AT DEPTHS GREATER THAN TWENTY FEET (20'). ANY USE OF PLASTIC PIPE AT THESE DEPTHS SHALL BE WITH THE PERMISSION OF (OR REQUIRED BY) THE ENGINEER. (ORD. 85-21.9-3-1985)
  3. FOR PIPE TWENTY FOUR INCHES (24") AND LARGER, PIPE SHALL BE AS MANUFACTURED BY GRIFFIN PIPE CO., HZSEWER SAFE DUCTILE OR APPROVED EQUAL. ALL DUCTILE IRON SHALL INCLUDE POLY-WRAP. ALL PIPE GREATER THAN TWENTY FOUR INCHES (24") DIA. OR INSTALLED AT DEPTHS GREATER THAN FOURTEEN FEET (14') SHALL BE EVALUATED FOR THICKNESS BY CONSIDERING THE TRENCH LOAD AND INTERNAL PRESSURE SEPARATELY IN ACCORDANCE WITH ANSI/AWWA C150/A21.5. PRESSURE RATED PIPE ASTM D- 2241 OR AWWA C900, MAYBE REQUIRED (OR SUBSTITUTED) ON LARGE DIA. PIPE BY THE ENGINEER.
  - 5.2 MANHOLE FRAMES AND LIDS: THE FRAMES AND LIDS SHALL BE OF THE NON-ROCKING AND SELF-SEALING TYPE WITH RUBBER WATERTIGHT GASKET AND SHALL CONFORM TO EAST JORDAN NO 1020 OR AN APPROVED EQUAL. THE LIDS TO BE SOLID WITH CONCEALED PICK HOLE AND WITH THE WORDS "CITY OF BATAVIA" AND "SANITARY SEWER" IN THE CAST IN LID. "INFA-SHIELD", "CANUSA" OR APPROVED EQUAL, CHIMNEY SEALS SHALL BE INSTALLED ON ALL SANITARY SEWER MANHOLES.
  - 5.3 SEWER PIPE BEDDING AND COVER: ALL SANITARY SEWER PIPE INCLUDING SERVICE LINES SHALL BE BEDDED AND CRADLED TO THE CENTERLINE OF THE PIPE IN SAND OR FINE GRAVEL. FROM THE CENTERLINE OF THE PIPE TO 12 INCHES OVER THE TOP OF THE PIPE, GRANULAR TRENCH BACKFILL MATERIAL SHALL BE HAND PLACED AND COMPACTED, ALL TO THE DETAILS SHOWN ON THE PLANS, PVC PIPE SHALL BE BEDDED AND CRADLED IN ACCORDANCE WITH ASTM D-2321 (CLASS 1) SPECIFICATIONS. ALL TRENCHES WITHIN STREETS AND FOR SANITARY SEWERS CONSTRUCTED UNDER PROPOSED PAVED AREAS SHALL BE BACKFILLED WITH CA-7 CRUSHED STONE, FLOWABLE FILL IN ACCORDANCE WITH I.D.O.T. SPECIAL PROVISION FOR CONTROLLED LOW-STRENGTH MATERIALS (CLSM) MAY BE REQUIRED UNDER CERTAIN CIRCUMSTANCES AS DIRECTED BY THE DEPT. OF PUBLIC WORKS OR THE ENGINEER. CA-6 CRUSHED STONE TRENCH BACKFILL (95% COMPACTION @ ONE FOOT INTERVALS ACCORDING TO CITY POLICY) OR OTHER SUITABLE TRENCH BACKFILL MAY BE SUBSTITUTED FOR CA-7 UNDER THE FOLLOWING CONDITIONS: 1) APPROVED BY STREET DEPARTMENT SUPERINTENDENT AND ENGINEER, 2) ON-SITE INSPECTION OF TRENCH BACKFILL DURING CONSTRUCTION.
  - 5.4 SANITARY SEWER SERVICES: SANITARY SEWER STUBS INSTALLED FOR HOUSE SERVICE CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS OR THE STANDARD SPECIFICATIONS. SEWER STUBS SHALL BE EXTENDED TO THE R.O.W. THE EXACT LOCATION SHALL BE DETERMINED IN THE FIELD, AND THE CONSTRUCTED LOCATION ACCURATELY RECORDED AND THE END MARKED WITH A 2"x4" POST PAINTED GREEN. SERVICE LINES SHALL HAVE A MINIMUM SLOPE OF 2.0%.
  - 5.5 LEAKAGE TESTING: ALL SANITARY SEWERS SHALL BE TESTED FOR WATERTIGHTNESS BY THE AIR TESTING METHOD SPECIFIED IN THE STANDARD SPECIFICATIONS.
  - 5.6 DEFLECTION TESTING: ALL SANITARY SEWER MAIN CONSTRUCTED OF PVC PIPE SHALL BE TESTED FOR DEFLECTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

- 5.7 VACUUM TESTING: VACUUM TESTING SHALL BE CARRIED OUT IMMEDIATELY AFTER ASSEMBLY AND PRIOR TO BACKFILLING. ALL LIFT HOLES SHOULD BE PLUGGED WITH AN APPROVED NON-SHRINK GROUT, OR RUBBER PLUG. NO GROUT WILL BE PLACED IN THE HORIZONTAL JOINTS BEFORE TESTING. ALL PIPES ENTERING THE MANHOLE SHALL BE PLUGGED, TAKING CARE TO SECURELY SPACE THE PLUGS FROM BEING DRAWN INTO THE MANHOLE. A VACUUM OF TEN (10) INCHES OF MERCURY SHALL BE PLACED ON THE MERCURY. THE TIME MEASURED FOR THE VACUUM TO DROP TO NINE (9) INCHES OF MERCURY. THE VACUUM SHALL NOT DROP BELOW NINE (9) INCHES OF MERCURY FOR THE FOLLOWING TIME PERIODS FOR EACH SIZE MANHOLE:

FORTY-EIGHT (48) INCHES DIAMETER	SIXTY (60) SECONDS
SEVENTY-TWO (72) INCHES DIAMETER	NINETY (90) SECONDS

THE VACUUM TESTER SHALL BE MANUFACTURED BY P.A. GLAZIER, INC., WORCESTER, MA. 01613, PHONE (800) 822-6468, OR OTHER TESTING EQUIPMENT MEETING THE SAME STANDARDS, IF APPROVED BY THE CITY DEPARTMENT OF PUBLIC WORKS ALL TESTING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF P.A. GLAZIER, INC. IF TESTING FAILS THE CONTRACTOR SHALL SEAL ALL LEAKS WITH MATERIAL AND METHODS RECOMMENDED BY P.A. GLAZIER, INC. AND RE-TESTED UNTIL ACCEPTABLE. IT IS RECOMMENDED THAT THIS TESTING BE DONE BEFORE BACKFILLING SO THAT ANY LEAKS CAN BE FOUND AND FIXED EXTERNALLY. THE MANHOLE FRAME AND ADJUSTING RINGS SHALL BE IN PLACE WHEN TESTING.

- 5.8 MANHOLES: ALL SANITARY SEWER MANHOLES SHALL BE OF PRECAST CONCRETE CONSTRUCTION AND SHALL HAVE RUBBER GASKETED COUPLINGS FOR ALL INLET AND OUTLET PIPES. INVERTS SHALL BE PRECAST CONCRETE CONFORMING TO THE SIZE AND SHAPE OF TAKING CARE TO SECURELY SPACE THE PLUGS FROM BEING DRAWN INTO THE MANHOLE. A VACUUM OF TEN (10) INCHES OF MERCURY SHALL BE PLACED ON THE MANHOLE AND THE TIME MEASURED FOR THE VACUUM TO DROP TO NINE (9) INCHES OF MERCURY. THE VACUUM SHALL NOT DROP BELOW NINE (9) INCHES OF MERCURY FOR THE FOLLOWING TIME PERIODS FOR EACH SIZE MANHOLE:
- 5.9 A NON-SHEAR "MISSION" BRAND COUPLING SHALL BE USED WHEN JOINING PIPES MADE OF DISSIMILAR MATERIAL WHERE NO "HUB" END EXISTS. PVC TRANSITION FITTINGS SHALL BE USED WHEN JOINING PVC PIPES OF DISSIMILAR MATERIAL SPECIFICATIONS SUCH AS WITH STORM SEWER OR WATER MAIN.

**6. SIDEWALK AND CURB CONSTRUCTION**

- 6.1 COMBINATION CURB AND GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE I.D.O.T. STANDARD SPECIFICATIONS. THE CONCRETE CURB AND GUTTER SHALL BE TYPE BG.12 UNLESS DETAILED OTHERWISE IN THE CONSTRUCTION PLANS. THE CONTRACTOR IS CAUTIONED TO REFER TO THE CONSTRUCTION STANDARDS AND THE PAVEMENT CROSS-SECTION TO DETERMINE THE GUTTER FLAG THICKNESS AND THE AGGREGATE BASE COURSE THICKNESS BENEATH THE CURB AND GUTTER. THE CONCRETE SHALL BE CLASS SI. IT SHALL HAVE AN AIR CONTENT OF NOT LESS THAN 5% NOR MORE THAN 7% OF THE VOLUME OF THE CONCRETE. IT SHALL DEVELOP A MINIMUM OF 3,500 PSI COMPRESSIVE STRENGTH AT 14 DAYS. TEST CYLINDERS SHALL BE TAKEN AND THE CERTIFIED COMPRESSION TEST RESULTS SUBMITTED TO THE ENGINEER.
- 6.2 REINFORCING BARS SHALL BE RUN CONTINUOUSLY THROUGH ITS LENGTH, EXCEPT AT EXPANSION JOINTS. AT EACH EXPANSION JOINT PROVIDE TWO 18" LONG NO. 6 SMOOTH BARS WITH EXPANSION CAPS AND 3/4" PREMOLDED, NON-EXTRUDING JOINT FILLER. EXPANSION JOINTS ARE TO BE PROVIDED AT ALL RADIUS POINTS, 5' TO 10' EITHER SIDE OF STRUCTURES AND 100' INTERVALS.
- 6.3 CONTRACTION JOINTS SHALL BE SAWED AT A MAXIMUM OF TEN FEET (10') SPACING. THE CONTRACTION JOINTS SHALL BE CUT IN THE UPPER 1/3 OF CURBS AND GUTTERS WITHIN 24 HOURS OF PLACEMENT.
- 6.4 ALL CURB AND GUTTER SHALL BE BROOM FINISHED. FINISHED SURFACES OF ALL NEWLY CONSTRUCTED CURB AND GUTTER SHALL BE COATED WITH ANTI-SPALL AND CURING COMPOUND APPROVED BY THE ENGINEER.
- 6.5 CURING AND PROTECTION OF ALL EXPOSED CONCRETE SURFACES SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. NO HONEYCOMBING OF THE CURB AND GUTTER WILL BE ACCEPTED.
- 6.6 BACKFILLING OF CURBS SHALL BE COMPLETED PRIOR TO PLACEMENT OF ROADWAY BASE-COURSE.
- 6.7 SIDEWALKS SHALL BE FIVE INCHES (5") THICK EXCEPT THRU DRIVEWAYS, HANDICAP RAMPS AND WHERE THE SIDEWALKS IS ADJACENT TO CURB THE THICKNESS IS TO BE SIX INCHES (6"). THE WIDTH OF THE SIDEWALK SHALL BE A MINIMUM OF FIVE FEET (5'). ALL SIDEWALK CONCRETE SHALL DEVELOP A MINIMUM OF 3,500 PSI COMPRESSIVE STRENGTH AT 14 DAYS. CONTRACTION POINTS SHALL BE SET AT 5 FOOT CENTERS WITH 3/4" PREMOLDED FIBER EXPANSION JOINTS AT 50 FEET CENTERS, AND WHERE SIDEWALK MEETS THE CURB, A BUILDING, OR ANOTHER SIDEWALK OR AT THE END OF EACH POUR, ALL SIDEWALKS SHALL BE BROOM FINISHED, IF A MANHOLE FRAME FALLS WITHIN THE LIMITS OF A SIDEWALK, A BOX-OUT SECTION SIDEWALK SHALL BE PLACED AROUND FRAME WITH A 1/2" EXPANSION JOINT.
- 6.8 HANDICAP SIDEWALK RAMPS SHALL BE INSTALLED AT ALL SIDEWALK/STREET INTERSECTIONS AS SHOWN ON DETAIL.
- 6.9 SIDEWALK SHALL NOT BE PLACED UNTIL BUILDING CONSTRUCTION HAS BEEN COMPLETED TO THE POINT THAT CONSTRUCTION TRAFFIC NEED NO LONGER CROSS THE SIDEWALK AREA, OR AS OTHERWISE DIRECTED BY THE ENGINEER.

**LIST OF STATE STANDARDS**

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
353001-04	PCC BASE COURSE WITH HMA BINDER AND SURFACE COURSE
424001-07	PERPENDICULAR CURB RAMPS FOR SIDEWALK
424021-01	DEPRESSED CORNER FOR SIDEWALKS
424028-01	ENTRANCE / ALLEY PEDESTRIAN CROSSING
442201-03	CLASS C & D PATCHES
602001-02	CATCH BASIN, TYPE A
602011-02	CATCH BASIN, TYPE C
602301-03	INLET, TYPE A
602401-03	MANHOLE, TYPE A
602601-02	PRECAST REINFORCED CONCRETE FLAT SLAB TOP
602701-02	MANHOLE STEPS
604001-03	FRAME AND LIDS, TYPE 1
604036-02	GRATE, TYPE B
606001-05	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
701001-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701001-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701002-05	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701002-06	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
701001-08	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701001-05	LANE CLOSURE, MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
701901-03	TRAFFIC CONTROL DEVICES
780001-03	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
814001-02	HANDHOLES

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SAFETY AS WELL AS SUPERVISION/DIRECTION AND MEANS/METHODS OF CONSTRUCTION